

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: John J. Guarnello Examiner #: J. Guarnello Date: 1/14/2004
 Art Unit: 1791 Phone Number 30 272-1476 Serial Number: 09/281089
 Mail Box and Bldg/Room Location: Person 548 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

*See attached claims
 search requested by
 re for possible believe
 a due case : Please Expedite,*

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#): _____	STN: _____
Searcher Phone #: _____	AA Sequence (#): _____	Dialog: _____
Searcher Location: _____	Structure (#): _____	Questel/Orbit: _____
Date Searcher Picked Up: _____	Bibliographic: _____	Dr.Link: _____
Date Completed: _____	Litigation: _____	Lexis/Nexis: _____
Searcher Prep & Review Time: _____	Fulltext: _____	Sequence Systems: _____
Clerical Prep Time: _____	Patent Family: _____	WWW/Internet: _____
Online Time: _____	Other: _____	Other (specify): _____

09/28/089

=> file caplus
COST IN U.S. DOLLARS
FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
0.63	0.63

FILE 'CAPLUS' ENTERED AT 06:01:59 ON 21 JAN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 21 Jan 2004 VOL 140 ISS 4
FILE LAST UPDATED: 20 Jan 2004 (20040120/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s textile
75943 TEXTILE
97885 TEXTILES
L1 128127 TEXTILE
(TEXTILE OR TEXTILES)

=> s (iron oxide hydroxide or ferric hydroxide oxide or hydrated ferric oxide or goethite or lepidocrocite or limonite)
S(IRON IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s iron(1)oxide(1)hydroxide
871747 IRON
10990 IRONS
872511 IRON
(IRON OR IRONS)
1442415 OXIDE
315845 OXIDES
1534995 OXIDE
(OXIDE OR OXIDES)
238454 HYDROXIDE
41334 HYDROXIDES
258965 HYDROXIDE
(HYDROXIDE OR HYDROXIDES)
L2 6084 IRON(L)OXIDE(L)HYDROXIDE

=> s ((iron(1)oxide(1)hydroxide or ferric(1)hydroxide(1)oxide or
hydrated(1)ferric(1)oxide))
871747 IRON
10990 IRONS
872511 IRON
(IRON OR IRONS)
1442415 OXIDE
315845 OXIDES
1534995 OXIDE

(OXIDE OR OXIDES)

238454 HYDROXIDE

41334 HYDROXIDES

258965 HYDROXIDE

(HYDROXIDE OR HYDROXIDES)

6084 IRON(L) OXIDE(L) HYDROXIDE

67319 FERRIC

1 FERRICS

67320 FERRIC

(FERRIC OR FERRICS)

238454 HYDROXIDE

41334 HYDROXIDES

258965 HYDROXIDE

(HYDROXIDE OR HYDROXIDES)

1442415 OXIDE

315845 OXIDES

1534995 OXIDE

(OXIDE OR OXIDES)

1339 FERRIC(L) HYDROXIDE(L) OXIDE

56502 HYDRATED

1 HYDRATEDS

56503 HYDRATED

(HYDRATED OR HYDRATEDS)

67319 FERRIC

1 FERRICS

67320 FERRIC

(FERRIC OR FERRICS)

1442415 OXIDE

315845 OXIDES

1534995 OXIDE

(OXIDE OR OXIDES)

407 HYDRATED(L) FERRIC(L) OXIDE

L3 7038 ((IRON(L) OXIDE(L) HYDROXIDE OR FERRIC(L) HYDROXIDE(L) OXIDE OR HYDRATED(L) FERRIC(L) OXIDE))

=> s goethite or lepidocrocite or limonite

8626 GOETHITE

261 GOETHITES

8646 GOETHITE

(GOETHITE OR GOETHITES)

1323 LEPIDOCROCITE

24 LEPIDOCROCITES

1326 LEPIDOCROCITE

(LEPIDOCROCITE OR LEPIDOCROCITES)

3772 LIMONITE

187 LIMONITES

3839 LIMONITE

(LIMONITE OR LIMONITES)

L4 12464 GOETHITE OR LEPIDOCROCITE OR LIMONITE

=> s aluminum(l)oxide(l)hydroxide

818627 ALUMINUM

292 ALUMINUMS

818687 ALUMINUM

(ALUMINUM OR ALUMINUMS)

1442415 OXIDE

315845 OXIDES

1534995 OXIDE

(OXIDE OR OXIDES)

238454 HYDROXIDE

41334 HYDROXIDES

258965 HYDROXIDE

(HYDROXIDE OR HYDROXIDES)

L5 4537 ALUMINUM(L) OXIDE(L) HYDROXIDE

=> d his

(FILE 'HOME' ENTERED AT 06:00:23 ON 21 JAN 2004)

FILE 'CAPLUS' ENTERED AT 06:01:59 ON 21 JAN 2004

L1 128127 S TEXTILE
L2 6084 S IRON(L) OXIDE(L) HYDROXIDE
L3 7038 S ((IRON(L) OXIDE(L) HYDROXIDE OR FERRIC(L) HYDROXIDE(L) OXIDE OR H
L4 12464 S GOETHITE OR LEPIDOCROCITE OR LIMONITE
L5 4537 S ALUMINUM(L) OXIDE(L) HYDROXIDE

=> s 11 and 13 and 14 and 15

L6 1 L1 AND L3 AND L4 AND L5

=> d 16 bib,abs

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:467977 CAPLUS

DN 131:103477

TI Textile surface coatings of iron oxide and aluminum oxide

IN Kuhn, Hans H.; Kang, Peter K.

PA Milliken & Co., USA

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5928720	A	19990727	US 1998-7687	19980115
PRAI	US 1998-7687		19980115		

AB A method of coating a **textile** substrate comprises (a) contacting a **textile** substrate with an aq. soln. of a ferrous or **ferric** salt and salt of Al at pH .apprx.2.5 or greater, wherein the aq. soln. optionally comprises a compd. which produces ammonia by hydrolysis in aq. soln., a buffering and pH controlling system, and a dispersing agent; (b) heating the soln. to .apprx.50.degree. to .apprx.100.degree.; (c) hydrolyzing and oxidizing the ferrous ion, or hydrolyzing the **ferric** ion, to form an **iron** (III) **oxide hydroxide** and hydrolyzing the Al ion to form an **aluminum oxide hydroxide**, nucleating the **iron** (III) **oxide hydroxide** and **aluminum oxide hydroxide** in situ at the surface of the substrate, wherein the **oxide hydroxides** are present as particles which are sub-colloidal in size, thereby forming a substantially amorphous coherent **iron** (III) **oxide hydroxide/aluminum oxide hydroxide** coating on the substrate surface; wherein the resultant rates of adsorption onto the substrate surface of the **oxide hydroxides** are greater than the resultant rates of formation of the same **oxide hydroxides**. The obtained substrate has very good color fastness, bacteriostatic, and virus removing properties and can be utilized as an water filtration article. Thus, a coating on a polyester fabric was prep'd. from a soln. contg. Mohr's salt 15, A12(SO₄)₃.cntdot.18H₂O 3.75, urea 10, formic acid 2.5, ammonium formate 2.64, and Rhodacal BX-78 1.2 g at pH .apprx.3.1.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> log y

COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
41.43	42.06

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
CA SUBSCRIBER PRICE	ENTRY	SESSION
	-0.69	-0.69

STN INTERNATIONAL LOGOFF AT 06:08:06 ON 21 JAN 2004

Ferric Hydroxide

slightly sol in hot water. Practically insol in acetone, petr ether, ether, chloroform.

3969. Ferric Hydroxide. *Ferric hydroxide oxide; hydrated ferric oxide.* Fe_2O_3 ; mol wt 88.86. Fe 62.85%, H 1.13%, O 36.01%. $\text{FeO}(\text{OH})$. Occurs in nature as the minerals *goethite* [$\alpha\text{-FeO}(\text{OH})$], *lepidocrocite* [$\gamma\text{-FeO}(\text{OH})$], and *limonite* [$\text{FeO}(\text{OH})\cdot n\text{H}_2\text{O}$]. Other known allomorphic forms: $\beta\text{-FeO}(\text{OH})$; $\delta\text{-FeO}(\text{OH})$. The hydroxide $\text{Fe}(\text{OH})_3$ is not known. Prepn: Lux in *Handbook of Preparative Inorganic Chemistry*, vol 2, G. Brauer, Ed. (Academic Press, New York, 2nd ed., 1965) p 1499. Crystal structure of $\alpha\text{-FeO}(\text{OH})$: Sampson, *Acta Cryst.* 25B, 1683 (1969). Review: Bernal *et al.*, *Clay Miner. Bull.* 4, 15-30 (1959).

Red to brown powder or crystals. Loses H_2O to form Fe_2O_3 , d 3.4-3.9. Practically insol in water, alcohol; sol in mineral acids.

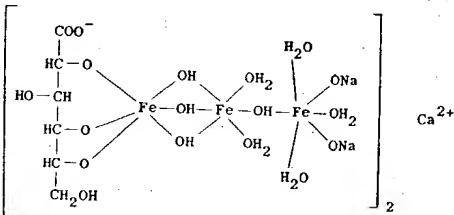
USE: In purifying water; as absorbent in chemical processing; as pigment; as catalyst.

3970. Ferric Hypophosphite. $\text{Fe}_2\text{H}_6\text{O}_6\text{P}_3$; mol wt 250.83. Fe 22.27%, H 2.41%, O 38.27%, P 37.05%. $\text{Fe}(\text{H}_2\text{PO}_4)_3$. Prepn: U.S.D. 25th ed., p 573.

White or grayish-white powder. Odorless, tasteless. Sol in 2300 parts cold water, 1200 parts boiling water; more sol in water in presence of H_3PO_4 ; sol in warm concd solns of alkali citrates. Protect from light. Should not be heated or triturated with chlorates, nitrates, or other oxidizing agents.

USE: Formerly as dietary supplement for phosphorus.

3971. Ferriclate Calcium Sodium. *Pentaqua[$\beta\text{-glucano}(\text{4}-\text{O}^2\text{-O}^1\text{-O}^2\text{-})\text{tetra-}\mu\text{-hydroxydioxotriferrate(3-)}\text{-}\beta\text{-glucosidate(2:1:4)}$]monocalcium tetrasodium bis[pentaqua[$\beta\text{-glucano}(\text{4}-\text{O}^2\text{-O}^1\text{-O}^2\text{-})\text{tetra-}\mu\text{-hydroxydioxotriferrate(3-)}\text{-}\beta\text{-glucosidate(2:1:4)}$]Kefler. $\text{C}_{12}\text{H}_{44}\text{CaFe}_6\text{Na}_4\text{O}_{36}$* ; mol wt 1231.62. C 11.70%, H 3.60%, Ca 3.25%, Fe 27.21%, Na 7.47%, O 46.77%.



THERAP CAT: Hematinic.

3972. Ferric Nitrate. $\text{Fe}_2\text{O}_3\text{O}_2$; mol wt 241.87. Fe 23.09%, N 17.37%, O 59.54%. $\text{Fe}(\text{NO}_3)_3$. Prepn: Gmelin's, *Iron* (8th ed.) 59, part B, 161-172 (1932).

Nonahydrate, pale-violet to grayish-white, somewhat deliquescent crystals. mp 47°. Dec below 100°. d²¹ 1.68. Freely sol in water, alcohol, acetone; slightly sol in cold concd HNO_3 . LD₅₀ orally in rats: 3.25 g/kg. H. F. Smyth *et al.*, *Am. Ind. Hyg. Assoc. J.* 30, 470 (1969).

USE: As mordant in dyeing, weighting silks, tanning; as reagent in analytical chemistry; as corrosion inhibitor.

3973. Ferric Oxide. *Ferric sesquioxide; jeweler's rouge.* Fe_2O_3 ; mol wt 159.70. Fe 69.94%, O 30.06%. α -Form occurs in nature as the mineral *hematite*. γ -Form occurs in nature as the mineral *maghemite*; prepd by dehydration of $\alpha\text{-FeO}(\text{OH})$: Giovanoli, Brütsch, *Chimia* 28, 188 (1974). Prepn of a third allomorphic form, $\epsilon\text{-Fe}_2\text{O}_3$: Schrader, Büttner, Z. *Anorg. Allgem. Chem.* 320, 220 (1963); Trautmann, Forestier, *Compt. Rend.* 261, 4423 (1965). Color and appearance of Fe_2O_3 are dependent upon the size and shape of the particles and the amount of combined water. Preparation and properties: Gmelin's, *Iron* (8th ed.) 59, part B, 63-94 (1932); Baudisch, Hartung, *Inorg. Syn.* 1, 185 (1939); Ullmann's *Encyklopädie der Technischen Chemie* vol. 6, 421-423 (1955); Bernal *et al.*, *Clay Miner. Bull.* 4, 15-30 (1959).

Note: The composition of the substance called $\delta\text{-Fe}_2\text{O}_3$ is actually $\text{FeO}(\text{OH})$: Bernal *et al.*, *loc. cit.*

Caution: Hematite dust causes benign pneumoconiosis; see L. T. Fairbanks, *Industrial Toxicology* (Hafner, New York, 2nd ed., 1969) pp 64-66.

USE: As pigment for rubber, ceramics, glass; in paint for ironing agent for glass, precious metal resistors and semiconductors; in catalyst; colloidal solns as stabilizers.

3974. Ferric Oxide. *Saccharated sugar; Colliron I.V.; Feojectin; Fe-mann; Iviron; Neo-Ferrum; Profer.* 2.8-3.2% Fe. Prepn: U.S.D. 26th ed., soln contg 2% Fe suitable for kinson, *Lancet* 256, 11 (1949).

Brown powder. Sol in water. Solns are unstable in the presence of mix with physiological saline.

THERAP CAT: Hematinic.

3975. Ferric Phosphate. $\text{Fe}_2\text{O}_3\text{P}_2\text{O}_7$; 37.03%, O 42.43%, P 20.54%. Prepn: the minerals: *beraunite*, *cacoxenite*, *phosphosiderite*, *strengeite*. Prepn: Boule, *Compt. Rend.* 253, 2699 (1961); H_3PO_4 : Cate *et al.*, *Soil Sci.* 88(3), 197 (1959); phosphate rock: Vickery, U.S. pat. 2,914,414 (1960); from mill scale and H_3PO_4 : A. J. McKinzie, U.S. pat. 3,070,423 (1962) to Chemetron.

Dihydrate, white, grayish-white, rhombic or monoclinic crystals. Loses water above 140°. d 2.87. Prepn: slowly sol in HNO_3 ; readily sol in H_2O .

USE: As food and feed supplement; enrichment; as fertilizer.

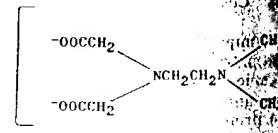
3976. Ferric Pyrophosphate. $\text{Fe}_2\text{O}_3\text{P}_2\text{O}_7$; Fe 29.98%, O 45.09%, P 24.94%. Prepn: Gmelin's, *Iron* (8th ed.) 59, part B, 777-778. U.S. pat. 3,014,784 (1962) to American Cyanamid.

Nonahydrate, yellowish-white powder in water or acetic acid; sol in mineral acids.

USE: As catalyst; in fireproofing of masonry; as rosin-preventing pigments.

THERAP CAT: Hematinic.

3977. Ferric Sodium Edetate. $\text{Fe}(\text{C}_6\text{H}_4\text{N}(\text{OOCCH}_2)_2)_2\text{Na}_2$; (carboxymethylglycinato)[(4-) $\text{H}_2\text{N}-\text{CH}_2-\text{CH}_2-\text{N}(\text{H}_2\text{C}_6\text{H}_4-\text{COOCH}_2)_2$]₂Na₂; (I-); sodium f(ethylenedinitrilo)tetraacetato- $\beta\text{-dihydroxydioxotri-}\beta\text{-glucosidate(2:1:4)}$ complex; ferric monosodium ethylenediaminetetraacetate; ferric edetic acid sodium iron salt; sodium ferratedete; Ferrostrane; Ferrostrong. Na₂Fe(C₆H₄N(OOCCH₂)₂)₂; mol wt 367.07. C 32.72%, H 1.76%, N 6.63%, Na 6.26%, O 34.87%. Prepn: Gmelin's, *Iron* (8th ed.) 59, part B, 777-778. U.S. pat. 3,014,784 (1962) to American Cyanamid. McKinzie, J. Am. Chem. Soc. 82, 4191 (1960).



Crystals from water + ethanol.

THERAP CAT: Iron source.

3978. Ferric Sodium Pyrophosphate. $\text{Fe}_4\text{Na}_8\text{O}_{35}\text{P}_{10}$. Hydrate. The commercial product contains 15.6-16.2% P_2O_5 .

White powder. Bulk density 1.4-1.6 g/cm³. Soln: Insol in water.

USE: Food enrichment. Less prone than orthophosphates.

3979. Ferric Subsulfate Solution. $\text{Fe}_2\text{O}_3\text{S}$; soln: Monsel's soln. Approx: $\text{Fe}_2\text{O}_3\text{S}\text{H}_2\text{O}$; FeSO_4 and HNO_3 ; U.S.D. 25th ed., p 573.

Reddish-brown liquid. Almost odorless. Astringent taste. Acid to litmus. d 1.548. Miscible with water, alcohol.